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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,401	10/22/2001	Harry Hedler	KSN0012	8725

7590 01/28/2005

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EXAMINER
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GRAYBILL, DAVID E

ART UNIT	PAPER NUMBER
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2822

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/806,401

Applicant(s)

HEDLER ET AL.

Examiner

David E Graybill

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

In the rejections infra, generally, reference labels are recited only for the first recitation of identical claim elements.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Caillat (5861322) and Akram (2002/0109218).

At column 5, line 29 to column 6, line 43, Caillat discloses an electronic module, in particular a multichip module, comprising a multilayer wiring 104, 108, 112, 114, 118 having at least one IC component 130 applied on a component side thereof, said module being unilaterally covered on the component side with a case 134, 136, and comprising a plurality of contact pads 138 on a bottom side of the module through for contacting and integration of the module to a next higher assembly group level, the bottom side of the multilayer wiring constituting directly, without additional wiring substrate, the bottom side of the module, the component side of the multilayer wiring adhering to the case with its portions that are free from components, and in that the multilayer wiring has a height of less than approximately 100  $\mu\text{m}$ , wherein the multilayer wiring is constituted by a

sequence of structured metal planes which are electrically separated from each other by insulating layers 104, 114 and between which purposeful electric connections are established through vias, wherein solderable material 140 is applied to the contact pads on the bottom side of the multilayer wiring, electrically connected to the component side through vias, for establishing contact with the next higher assembly group level ("printed circuit board"), wherein the solderable material is applied in the form of solder balls.

To clarify the disclosure that the multilayer wiring has a height of less than approximately 100  $\mu\text{m}$ , it is noted that Caillat discloses that the height of each of the layers 104 and 114 is 5  $\mu\text{m}$  thick; therefore, the total height of the multilayer wiring is 10  $\mu\text{m}$  thick.

However, Caillat does not appear to explicitly disclose a hermetic case being formed of a single material by plastics overmolding.

Nevertheless, at paragraph 4, Akram discloses a hermetic case being formed of a single material "silicone" by plastics overmolding "underfill" "glob top." Moreover, it would have been obvious to substitute the hermetic case of Akram for the case of Caillat because, as taught by Akram, it would provide environmental protection and enhance the attachment of the component to the wiring.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Caillat (5861322) and Fallon (5923090).

Caillat is applied for the same reasons it was applied supra.

However, Caillat does not appear to explicitly disclose a hermetic case being formed of a single material by plastics overmolding.

Regardless, at column 3, lines 4-10, Fallon discloses a hermetic case 9 being formed of a single material by plastics overmolding. Furthermore, It would have been obvious to substitute the hermetic case of Fallon for the case of Caillat because it would further hermetically protect the module. Also, it would have been obvious to combine this disclosure of Fallon with the disclosure of Caillat because it would facilitate protection of the module. Indeed, it has been held that it is obvious to combine two processes for the same purpose. In re Novak 16 USPQ2d 2043. Similarly, "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose . . . . [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 205 USPQ 1069, 1072 (CCPA 1980) (citations omitted) (Claims to a process of preparing a spray - dried detergent by mixing together two conventional spray - dried detergents were held to be prima facie obvious.). See also, In re Crockett, 279 F.2d 274, 126 USPQ 186

(CCPA 1960) (Claims directed to a method and material for treating cast iron using a mixture comprising calcium carbide and magnesium oxide were held unpatentable over prior art disclosures that the aforementioned components individually promote the formation of a nodular structure in cast iron.); and Ex parte Quadranti 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992) (Mixture of two known herbicides held prima facie obvious).

Applicant's amendment and remarks filed on 11-15-4 have been fully considered, are addressed by the rejections supra, and are further addressed infra.

Applicant alleges that Akram does not disclose a case being formed of a single material because, "As explained in Akram, the glob top 102 and the underfill 104 consist of different materials, even though both may be made of epoxy or silicone polymers. Specifically, Akram teaches that 'the addition of glob materials can induce detrimental stresses that can cause catastrophic failures. The stresses occur when the glob top is cured and has different mechanical characteristics such as an expansion coefficient compared to the underfill material.'"

This allegation is respectfully traversed because, as applied to the rejection, the disclosure of Akram that both the underfill and glob top material is silicone encompasses a case consisting of only one material: silicone; hence, Akram discloses a case being formed of a single material.

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Moreover, applicant's cited disclosure of Akram, "when the glob top is cured and has different mechanical characteristics such as an expansion coefficient compared to the underfill material," is a conditional statement which does not limit the disclosure to the case comprising the underfill and glob top being formed of a single material.

The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions similar to the instant invention.

**For information on the status of this application applicant should check PAIR:**

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**Alternatively, applicant may contact the File Information Unit at (703) 308-2733. Telephone status inquiries should not be directed to the examiner. See MPEP 1730VIC, MPEP 203.08 and MPEP 102.**

Any other telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (571) 272-1930. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is (703) 872-9306.



David E. Graybill  
Primary Examiner  
Art Unit 2827

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D.G.  
25-Jan-05